Plutonium-238 RWMC Aquifer-Monitoring Wells																
FY	Qtr	A11-A31	M10S	M11S	M12S	M13S	M14S	M15S	M16S	M17S	M1S	M3S	M4D	M6S	M7S	OW-2	USGS-127
1997	1																
	2																
	3																
	4																
1998	1																
	2																
	3																
	4																
1999	1																
	2																
	3													0.044			
	4																
2000	1																
	2																
	3																
	4											0.37					
2001	1		0.018	0.030							0.019		0.028		0.071		
	2													0.17			
	3																
	4								0.034								
2002	1																
	2																
	3																
	4																
2003	1																
	2																
	3																
	4																

Key	
	Analysis was performed, but plutonium-238 was not detected.
	Plutonium-238 was detected (pCi/L).
	If more than one positive detection occurred in a single quarter, then only the highest concentration is listed. Note: MCL = 15 pCi/L total alpha FY = fiscal year MCL = maximum contaminant level RWMC = Radioactive Waste Management Complex USGS = United States Geological Survey

Figure 3-36. Occurrences of plutonium-238 detections in aquifer samples collected around the Radioactive Waste Management Complex since Fiscal Year 1997.

Plutonium-239/240 RWMC Aquifer-Monitoring Wells																
FY	Qtr	A11 A31	M10S	M11S	M12S	M13S	M14S	M15S	M16S	M17S	M1S	M3S	M4D	M6S	M7S	OW-2	USGS-127
1997	1																
	2																
	3																
	4																
1998	1																
	2																
	3																
	4																
1999	1																
	2																
	3																
	4																
2000	1																
	2																
	3																
	4											0.09					
2001	1																
	2																
	3																
	4								0.03								
2002	1																
	2																
	3																
	4																
2003	1																
	2																
	3																
	4																

Key	
	Analysis was performed, but plutonium-239/240 was not detected.
	Plutonium-239/240 was detected (pCi/L).
	If more than one positive detection occurred in a single quarter, then only the highest concentration is listed. Note: MCL = 15 pCi/L total alpha FY = fiscal year MCL = maximum contaminant level RWMC = Radioactive Waste Management Complex USGS = United States Geological Survey

Figure 3-37. Occurrences of plutonium-239/240 detections in aquifer samples collected around the Radioactive Waste Management Complex since Fiscal Year 1997.

3.7.4 Summary of Plutonium

Plutonium-238 and Pu-239/240 were not detected in the vadose zone soil-moisture samples, perched water samples, or RWMC aquifer samples in FY 2003. The locations of historical plutonium detections in the vadose zone are depicted in Figure 3-38, with locations of plutonium-containing disposals. Plutonium detections are sporadic and do not point to any discernable trends.

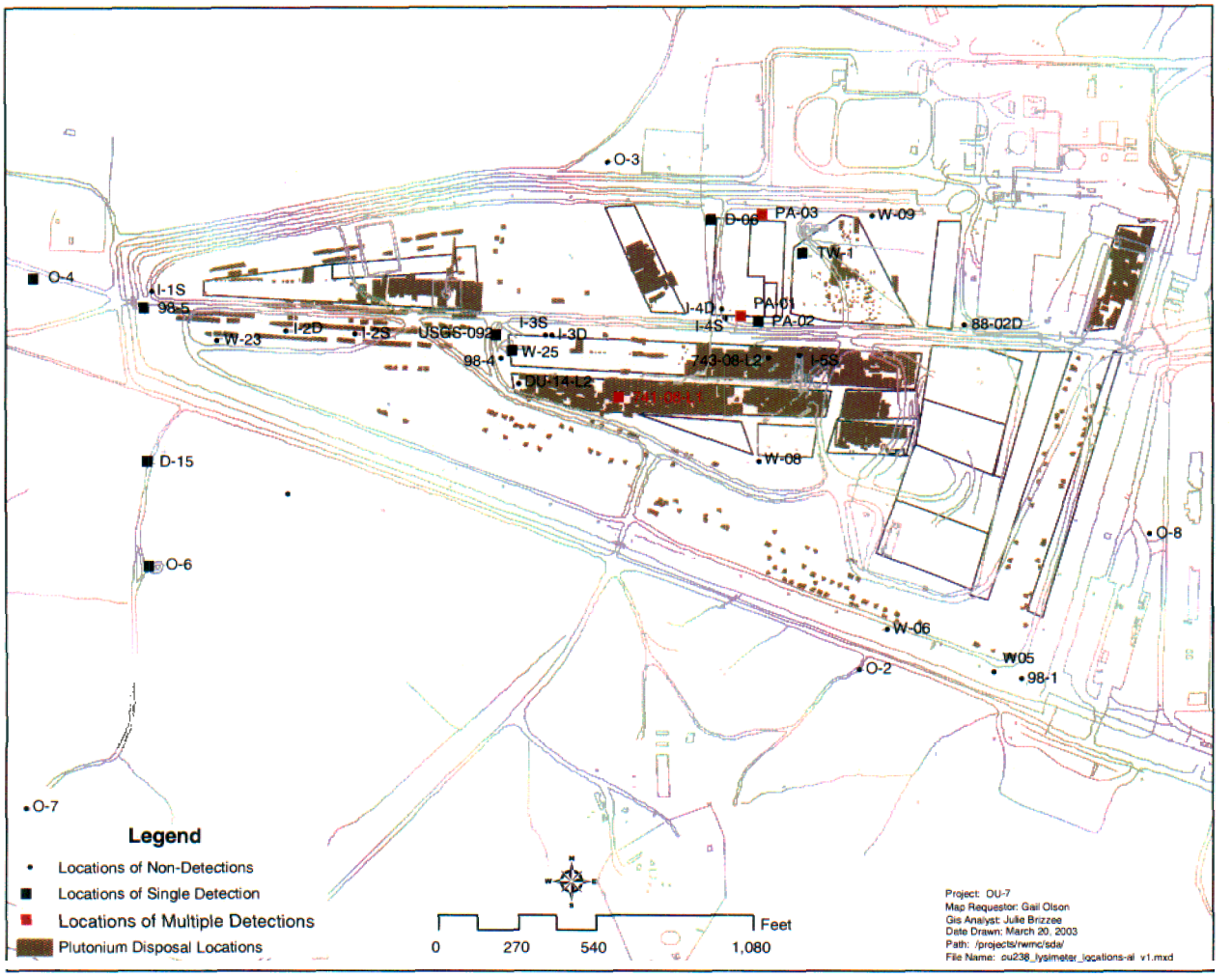

Figure 3-38. Plutonium disposal locations and vadose zone detection locations at the Subsurface Disposal Area.

Plutonium-239/240 was not detected more than once in any SDA vadose zone soil-moisture samples, perched water samples, or RWMC aquifer samples since FY 1997. Figure 3-39 presents a time history of vadose zone and aquifer plutonium concentrations since 1997. Plutonium-238 was detected more than once in Lysimeters PA01 and PA03 (see Figure 3-30) and in Aquifer Well M6S (see Figure 3-36). Both lysimeter wells are located near Pad A. Lysimeter PA01 is 4.3 m (14 ft) deep and is located north of known disposals in Pits 4 and 6. Lysimeter PA03 is 3 m (10 ft) deep and is located just north of Pad A, with no known plutonium disposals nearby. Plutonium has not been detected in Lysimeter PA03 since FY 1998 until the lysimeter was damaged in FY 2000. The lysimeter was repaired in late 2003 and samples will be collected the next time soil moisture is available. Aquifer Well M6S is located approximately 0.25 mi southeast of the RWMC. Plutonium has not been detected in this aquifer well since 2001.

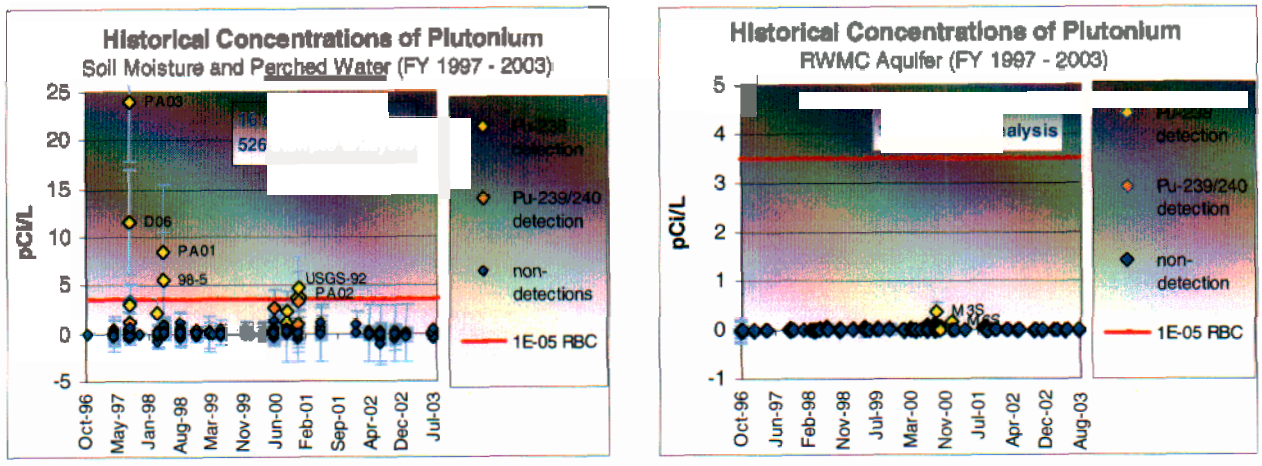

Figure 3-39. Plutonium concentration time history associated with Subsurface Disposal Area vadose zone and Radioactive Waste Management Complex aquifer monitoring for Fiscal Year 2003.

In soil-moisture and perched water samples from 1997, most of the positive plutonium detections occurred in Pit 5, around Pad A, and in the western part of the SDA. Nine of the 16 detections were from the Pit 5 and Pad A areas (PA01, PA02, PA03, D06, and TW1), three of the 16 occurred in monitoring wells located in the western part of the SDA (98-4, 98-5, and USGS-92), and four of the 16 also occurred in the western part of the RWMC but outside the SDA (D15, O4S, and O6D).

Contrary to expectations based on an order-of-magnitude larger disposal of Pu-239/240 compared to Pu-238, most subsurface plutonium detections are Pu-238 rather than Pu-239/240. Of the 16 plutonium detections in the vadose zone since FY 1997, 11 (69%) were Pu-238. In the aquifer, 82% (9 out of 11) of the plutonium detections were Pu-238. Plutonium-238 is associated with nuclear fuel rather than RFP weapons-related waste. In contrast, most of the plutonium-containing disposals are documented as originating from RFP, which would contain proportionately more Pu-239/240.

Positive detections of just Pu-238 (characteristic of reactor operations waste) were primarily associated with monitoring wells around Pad A (PA01, PA02, PA03, and D06). Low-level detections of just Pu-239/240 (characteristic of weapons manufacturing waste) were associated with soil-moisture samples from monitoring wells in Pit 5 (TW1) and outside the SDA (O4S and O6D). Sample results from Wells D15 and PA02 had detections of both Pu-238 and Pu-239/240. The isotopic ratio of D15 results was inconclusive, whereas that of PA02 suggests plutonium from reactor operations waste.

3.8 Strontium-90

Strontium-90 is generated by nuclear reactor operations. Approximately 6.44E+05 Ci of Sr-90 was disposed of in the SDA, mostly from INEEL reactor operations and subassembly hardware. Carcinogenic risk of Sr-90 is primarily through a surface exposure pathway (e.g., crop ingestion).

3.8.1 Waste Zone

Waste zone soil-moisture samples are not analyzed for Sr-90.

3.8.2 Vadose Zone

No soil-moisture or perched water samples from the vadose zone were analyzed for Sr-90 in FY 2003. Historical detections of Sr-90 in shallow lysimeters are shown in Figure 3-40. One detection of Sr-90

occurred in the intermediate-depth lysimeters and no detections have occurred in the deep vadose zone since monitoring for it began in 1997; therefore, a figure showing occurrences is not presented. The Sr-90 detection of 4.1 ± 1.2 pCi/L occurred in the TW1-DL04 intermediate-depth lysimeter in November 1998.

		Strontium-90 RWMC Lysimeters (0–35 ft)															
FY	Qtr	98-1L35	98-4L38	98-5L39	D15-DL07	PA01-L15	PA02-L16	PA03-L33	W05-L25	W06-L27	W08-L13	W08-L14	W09-L23	W23-L07	W23-L08	W23-L09	W25-L28
1997	1																
	2																
	3																
	4									52							
1998	1																
	2																
	3																
	4																
1999	1																
	2																
	3																
	4																
2000	1	2.2															
	2	3.5	3.5					3.8									
	3														3.8		
	4						8.9										
2001	1																
	2																
	3																
	4																
2002	1																
	2																
	3																
	4																
2003	1																
	2																
	3																
	4																

Key

Analysis was performed, but strontium-90 was not detected.

Strontium-90 was detected (pCi/L).

If more than one positive detection occurred in a single quarter, then only the highest concentration is listed.
MCL = 8 pCi/L
FY = fiscal year
MCL = maximum contaminant level
RWMC = Radioactive Waste Management Complex

Figure 3-40. Occurrences of strontium-90 in shallow lysimeter samples since Fiscal Year 1997.

3.8.3 Aquifer

Sixty-three aquifer samples were collected from 15 RWMC monitoring wells and screened for Sr-90 activity in FY 2003 using gross beta analysis. Six sample results exceeded the gross beta trigger

level of 5 pCi/L and were analyzed for Sr-90, with no positive detections. The trigger level of 5 pCi/L is set below the MCL of 8 pCi/L. Samples were collected in November 2002 and February, April, May, and August 2003 from Monitoring Wells AllA31, M1S, M3S, M4D, M6S, M7S, M11S, M12S, M13S, M14S, M15S, M16S, M17S, OW2, and USGS-127. No Sr-90 has been detected in RWMC aquifer samples since monitoring began in FY 1997; therefore, a figure showing occurrences is not presented.

The gross beta activities measured in all aquifer-monitoring wells around the RWMC were typical of concentrations normally found in the SRPA, with the exception of Well M4D. Well M4D gross beta activity has been consistently higher than gross beta levels observed in all other monitoring wells at the RWMC and has remained relatively constant throughout the past 10-year monitoring period. The gross beta activity for Well M4D is consistently around 23 pCi/L, whereas all other RWMC monitoring wells are about 4 pCi/L. Because Well M4D is much deeper than other RWMC aquifer-monitoring wells (i.e., 244 versus approximately 198 m [838 versus approximately 650 ft]), the higher gross beta activity likely is due to elevated levels of K-40, since elemental potassium is appreciably above SRPA background levels in this well. The concentration difference of other geochemical and radiochemical constituents (i.e., Ca, Na, Mg, and natural uranium), between Well M4D and the other RWMC wells, suggests that M4D is located in a section of the aquifer that is isolated from the shallower wells.

3.8.4 Summary of Strontium-90

No Sr-90 was detected in SDA vadose zone soil-moisture samples or in RWMC aquifer samples in FY 2003. Historical detections of Sr-90 in the vadose zone are shown in Figure 3-41 along with the known disposal locations. Lysimeter 98-1L35, the only lysimeter where Sr-90 has been detected more than once, is located at the southeast corner of the SDA. The Sr-90 detections are sporadic and not indicative of emerging trends. Because Sr-90 detections are sporadic, the data probably are not useful to support modeling assumptions and calibration.

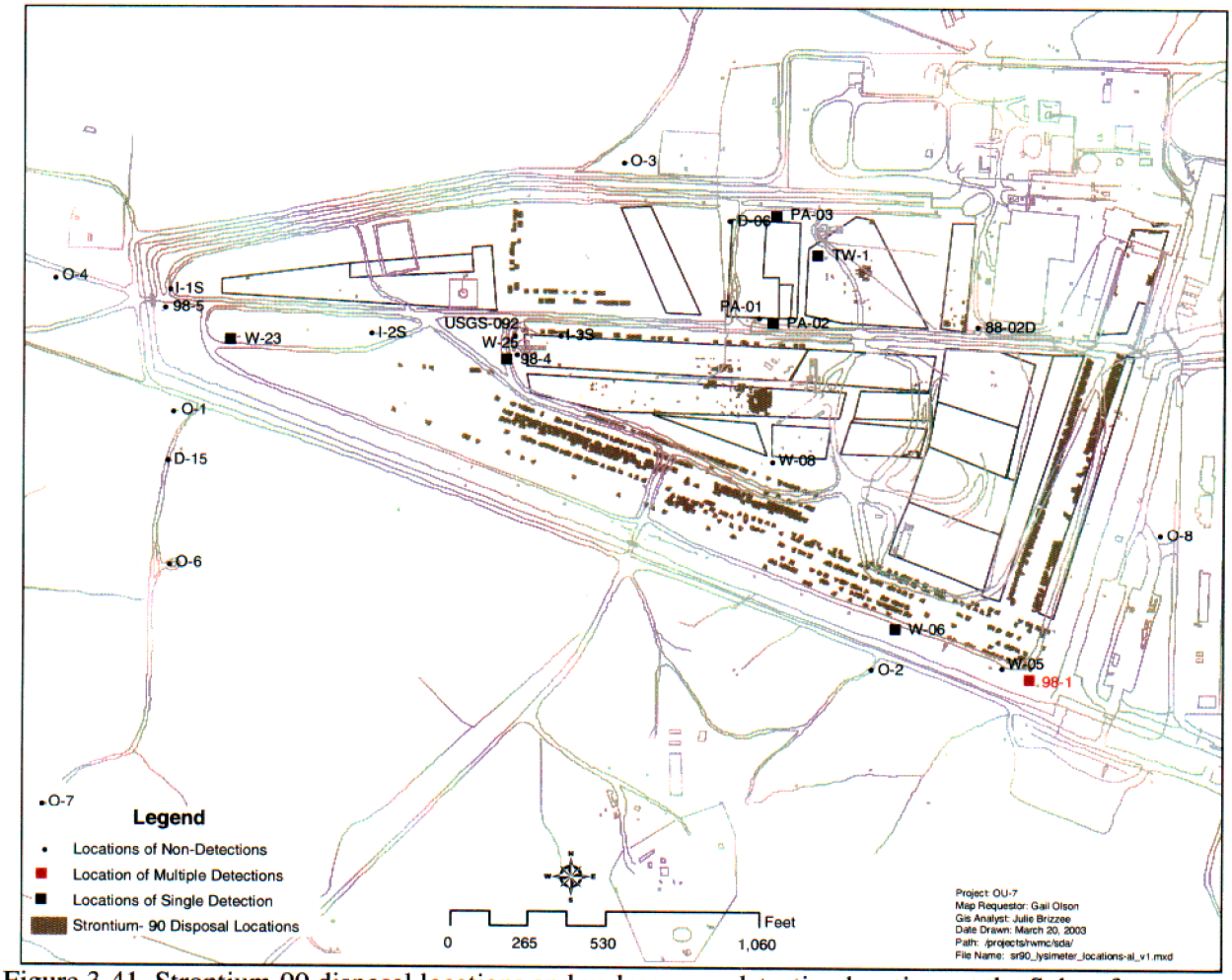

Figure 3-41. Strontium-90 disposal locations and vadose zone detection locations at the Subsurface Disposal Area.

3.9 Technetium-99

Technetium-99 is generated primarily by nuclear reactor operations. Approximately 61 Ci of Tc-99 was disposed of in the SDA. Most originated from INEEL reactor operations waste.

3.9.1 Waste Zone

Approximately 10 mL of soil moisture was collected from Waste-Zone Lysimeter 741-08-L1 on September 8, 2003, but the volume was not sufficient to analyze for Tc-99; however, the sample was analyzed for gamma-emitting radionuclides with no positive detections.

3.9.2 Vadose Zone

3.9.2.1 Lysimeter Samples at Depths of 0 to 35 ft. Twenty-nine Tc-99 analyses were performed on soil-moisture samples collected from 13 shallow lysimeters in and around the SDA in FY 2003, with six positive detections (see Table 3-21). All detected concentrations were below the 1E-05 RBC for the aquifer. Most historical detections in the 0–35-ft region of vadose zone are from lysimeter wells located around Pad A (PA01, PA02, and PA03) and the western part of the SDA (W23). Historical detections of Tc-99 in the shallow vadose zone are shown in Figure 3-42.

Table 3-21. Technetium-99 detections in Fiscal Year 2003 Subsurface Disposal Area vadose zone soil-moisture samples from the 0- to 35-ft depth interval.

Lysimeter	Depth (ft)	Sample Date	Sample Result ± 1σ (pCi/L)	MDA (pCi/L)	Local Soil-Moisture Background[a] (pCi/L)	Aquifer RBC[b] (pCi/L)
98-4L38	17	10/21/02	**28 ± 5$_J$[cd]**	16	Nondetect	173
98-5L39	10.5	10/21/02	**34 ± 6$_J$[cd]**	19	Nondetect	173
D15-DL07	32.2	10/21/02	**22 ± 5$_J$[cd]**	16	Nondetect	173
W23-L07	18.8	10/21/02	**68 ± 6$_J$[cdc]**	17	Nondetect	173
W23-L09	7.7	07/21/03	**42 ± 10[c]**	30	Nondetect	173
W25-L28	15.5	10/21/02	**25 ± 6$_J$[cd]**	20	Nondetect	173

a. The local soil-moisture background concentration for Tc-99 is defined as a nondetect (i.e., a result less than or equal to its MDA and less than or equal to three times its reported 1σ uncertainty), because levels in the environment are far below the detection sensitivity of routine radioanalytical methods with small sample volumes.
b. RBC = 1E-05 for drinking water. The RBCs for the aquifer are provided here as a basis of comparison.
c. **Black bold font** indicates sample concentrations less than the RBC, but exceeding local soil-moisture background concentrations (see footnote a).
d. Concentrations with a "J" subscript were positively identified in the sample and assigned a "J" data qualifier flag, because the laboratory control sample exceeded the upper recovery limit. Therefore, the reported concentrations may have a high bias and should only be used as estimated quantities. In other words, Tc-99 was definitely detected, but the reported concentrations may be slightly inflated.
e. The laboratory performed a duplicate (split) analysis on this particular sample as part of their routine internal quality control protocol. Internal quality control test results, not normally reported in these tables, are mentioned to provide confirmation of the initial detection. The laboratory-generated duplicate analysis result is 69 ± 6 pCi/L, which substantiates the presence and concentration of Tc-99 at this lysimeter location.
MDA = minimum detectable activity
RBC = risk-based concentration
SDA = Subsurface Disposal Area

		Technetium-99 RWMC Lysimeters (0–35 ft)																	
FY	Qtr	98-1 L35	98-4 L38	98-5 L39	D15-DL07	LYS1-L41	PA01-L15	PA02-L16	PA03-L33	W05-L24	W05-L25	W06-L27	W08-L13	W08-L14	W09-L23	W23-L07	W23-L08	W23-L09	W25-L28
1997	1																		
	2																		
	3																	17	
	4																	30	
1998	1																		
	2																		
	3																		
	4																15*	20	
1999	1							13	36										
	2																		
	3																		
	4																		
2000	1								21										
	2								17									20	
	3	16		21			17						15				39	33	
	4						27												
2001	1																		
	2																		
	3																46		
	4																		
2002	1																		
	2																		
	3																		
	4																	15*	
2003	1		28*	34*	22*											68*			25*
	2																		
	3																		
	4																	42	

Key

naly

forn

If more than one positive detection occurred in a single quarter, then only the highest concentration is listed.
* Indicates a positive detection that received a "J" qualifier flag because of a minor quality control anomaly.
Note: RBC = 173 pCi/L
FY = fiscal year
RBC = 1E-05 risk-based concentration
RWMC = Radioactive Waste Management Complex

Figure 3-42. Occurrences of technetium-99 detections in shallow lysimeters since Fiscal Year 1997.

3.9.2.2 Lysimeter Samples at Depths of 35 to 140 ft. Forty-two Tc-99 analyses were performed on soil-moisture samples collected from 13 intermediate-depth lysimeters in and around the SDA in FY 2003, with eight positive detections (see Table 3-22). All detected concentrations were below the 1E-05 RBC for the aquifer. Most historical detections in the 35–140-ft region of the vadose zone are from lysimeter wells located around Pad A (D06) and the western part of the SDA (I1S, I2S, I3S, and D15). Historical detections in lysimeter samples from this depth range are depicted in Figure 3-43. A Tc-99 concentration trend appears to be developing at Lysimeter D06-DL01 (see Figure 3-44).

Table 3-22. Technetium-99 detections in Fiscal Year 2003 Subsurface Disposal Area vadose zone soil-moisture samples from the 35- to 140-ft depth interval.

Lysimeter	Depth (ft)	Sample Date	Sample Result ± 1σ (pCi/L)	MDA (pCi/L)	Local Soil-Moisture Background[a] (pCi/L)	Aquifer RBC[b] (pCi/L)
D06-DL01	88	10/22/02	**13 ± 4**[c]	13	Nondetect	173
		04/29/03	**34 ± 8**[c]	25	Nondetect	173
		07/10/03	**61 ± 9**[c]	28	Nondetect	173
D15-DL06	97.9	10/21/02	**28 ± 5_J**[cd]	16	Nondetect	173
I1S-DL09	101	10/21/02	**29 ± 6_J**[cd]	20	Nondetect	173
I2S-DL11	92	10/21/02	**25 ± 5_J**[cd]	16	Nondetect	173
I3S-DL13	93	10/21/02	**18 ± 6_J**[cd]	18	Nondetect	173
O7S-DL28	119	10/21/02	**20 ± 6_J**[cd]	19	Nondetect	173

a. The local soil-moisture background concentration for Tc-99 is defined as a nondetect (i.e., a result less than or equal to its MDA and less than or equal to three times its reported 1σ uncertainty), because levels in the environment are far below the detection sensitivity of routine radioanalytical methods with small sample volumes.
b. RBC = 1E-05 for drinking water. The RBCs for the aquifer are provided here as a basis of comparison.
c. **Black bold font** indicates sample concentrations less than the RBC, but exceeding local soil-moisture background concentrations (see footnote a).
d. Concentrations with a "J" subscript were positively identified in the sample and assigned a "J" data qualifier flag, because the laboratory control sample exceeded the upper recovery limit. Therefore, the reported concentrations may have a high bias and should only be used as estimated quantities. In other words, Tc-99 was definitely detected, but the reported concentrations may be slightly inflated.
MDA = minimum detectable activity
RBC = risk-based concentration
SDA = Subsurface Disposal Area

		Technetium-99 RWMC Lysimeters (35–140 ft)													
FY	Qtr	D06-DL01	D06-DL02	D15-DL06	I1S-DL09	I2S-DL11	I3S-DL13	I4S-DL15	I5S-DL16	O2S-DL20	O3S-DL22	O4S-DL24	O5S-DL25	O7S-DL28	TW1-DL04
1997	1														
	2														
	3														
	4														
1998	1														
	2														
	3														
	4	11	33												
1999	1			43*											20*
	2														
	3														
	4														
2000	1														
	2														
	3			21											
	4														
2001	1														
	2														
	3														
	4														
2002	1														
	2														
	3														
	4														
2003	1	13		28*	29*	25*	18*							20*	
	2														
	3	34													
	4	61													
Key		Analysis was performed, but technetium-99 was not detected.													
		Technetium-99 was detected (pCi/L).													
		If more than one positive detection occurred in a single quarter, then only the highest concentration is listed. * Indicates a positive detection that received a "J" qualifier flag because of a minor quality control anomaly. Note: RBC = 173 pCi/L FY = fiscal year RBC = 1E-05 risk-based concentration RWMC = Radioactive Waste Management Complex													

Figure 3-43. Occurrences of technetium-99 detections in intermediate-depth lysimeters since Fiscal Year 1997.

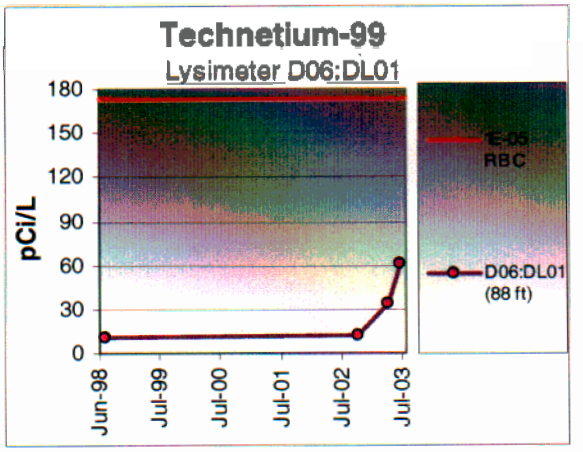

Figure 3-44. Lysimeter D06-DL01 Tc-99 concentration history since monitoring began in 1998.

3.9.2.3 Lysimeter and Perched Water Samples at Depths Greater than 140 ft.

Twenty-eight Tc-99 analyses were performed on samples collected from eight lysimeter and two perched water wells in and around the SDA in FY 2003, with five positive detections (see Table 3-23). All detected concentrations were below the 1E-05 RBC for the aquifer. Historical detections in the 140–250-ft region of the vadose zone are from perched water in the western part of the SDA (USGS-92) and from lysimeter wells located outside the SDA (O2, O4, O6, and O7). Three unconfirmed detections of Tc-99 have occurred in vadose zone well samples deeper than 140 ft since monitoring began in 1997, all from Well USGS-92. Technetium-99 was detected in the filtered sediment portion of two samples since FY 1997 (December 1998 and September 2000). Both detections were less than 4 pCi/L. Technetium also was detected in the liquid portion of the sample at 280 pCi/L (September 2000). Historical detections are shown in Figure 3-45.

Table 3-23. Technetium-99 detections in Fiscal Year 2003 Subsurface Disposal Area vadose zone soil-moisture samples from the 140- to 250-ft depth interval.

Lysimeter	Depth (ft)	Sample Date	Sample Result ± 1σ (pCi/L)	MDA (pCi/L)	Local Soil-Moisture Background[a] (pCi/L)	Aquifer RBC[b] (pCi/L)
O2-DL19	240	10/21/02	**31 ± 9$_J$**[c,d]	28	Nondetect	173
O4-DL23	225	10/21/02	**37 ± 8$_J$**[c,d]	24	Nondetect	173
O6-DL26	225	10/21/02	**18 ± 5$_J$**[c,d]	17	Nondetect	173
O7-DL27	240	10/21/02	**29 ± 6$_J$**[c,d]	18	Nondetect	173
USGS-92	214	07/22/03	**28 ± 6**[c]	20	Nondetect	173

a. The local soil-moisture background concentration for Tc-99 is defined as a nondetect (i.e., a result less than or equal to its MDA and less than or equal to three times its reported 1σ uncertainty), because levels in the environment are far below the detection sensitivity of routine radioanalytical methods with small sample volumes.
b. RBC = 1E-05 for drinking water. The RBCs for the aquifer are provided here as a basis of comparison.
c. **Black bold font** indicates sample concentrations less than the RBC, but exceeding local soil-moisture background concentrations (see footnote a).
d. Concentrations with a "J" subscript were positively identified in the sample and assigned a "J" data qualifier flag, because the laboratory control sample exceeded the upper recovery limit. Therefore, the reported concentrations may have a high bias and should only be used as estimated quantities. In other words, Tc-99 was definitely detected, but the reported concentrations may be slightly inflated.
MDA = minimum detectable activity
RBC = risk-based concentration
SDA = Subsurface Disposal Area

		Technetium-99 RWMC Perched Water and Lysimeters (>140 ft)									
FY	Qtr	8802D	USGS-092	I2D-DL10	I3D-DL12	I4D-DL14	O2-DL19	O4-DL23	O6-DL26	O7-DL27	O8-DL29
1997	1										
	2										
	3										
	4										
1998	1										
	2										
	3										
	4										
1999	1		28*								
	2										
	3										
	4										
2000	1										
	2										
	3										
	4		280								
2001	1										
	2										
	3										
	4										
2002	1										
	2										
	3										
	4										
2003	1						31*	37*	18*	29*	
	2										
	3										
	4		28								
Key			Analysis was performed for technetium-99, but none was detected.								
			Technetium-99 was detected (pCi/L).								
		If more than one positive detection occurred in a well in a single quarter, then only the highest concentration is listed. * Indicates a positive detection that received a "J" qualifier flag because of a minor quality control anomaly. Note: RBC = 173 pCi/L FY = fiscal year RBC = 1E-05 risk-based concentration RWMC = Radioactive Waste Management Complex									

Figure 3-45. Occurrences of technetium detections in lysimeters at depths >140 ft since Fiscal Year 1997.

3.9.3 Aquifer

Sixty-three Tc-99 analyses were performed on aquifer samples collected from 15 monitoring wells in the vicinity of the RWMC in FY 2003, with no positive detections. Occurrences of Tc-99 in aquifer samples since FY 1997 are depicted in Figure 3-46.

3.9.4 Summary of Technetium-99

Of the 19 positive detections in the vadose zone and perched water in FY 2003, 14 were assigned "J" data qualifier flags, because the laboratory control sample exceeded the upper recovery limit. Thus, the reported concentrations might have a high bias and should only be used as estimated quantities. In other words, Tc-99 was definitely detected, but the reported concentrations might be slightly inflated. Though many detections were qualified as questionable in October 2002, Lysimeter Wells D06, D15, and W23 have exhibited the most frequent Tc-99 detections (see Figures 3-42 and 3-43). Most other vadose zone lysimeters have had either one or no detections since monitoring began. Locations of historical Tc-99 detections in the vadose zone are shown on Figure 3-47 along with the locations of disposals containing Tc-99. As shown, Wells D06 and W23 are located in areas of the SDA where there are no noted disposals, but where uranium is increasing over time in the soil-moisture samples (see Section 3.10).

None of the 63 aquifer samples collected in FY 2003 contained detectable Tc-99. Detections of Tc-99 occur sporadically in the aquifer (see Figure 3-46) and are not indicative of trends or widespread contamination.

The consistent detections of Tc-99 in D06:DL01 and W23:L09—at depths of 26.8 m (88 ft) and 2.3 m (7.7 ft), respectively—suggest that Tc-99 might be a useful modeling target; however, the inventory records do not indicate that Tc-99 is present in these areas of the SDA. Because the current source release model is based on inventory records, this currently precludes use of this location for calibration.

		Technetium-99 RWMC Aquifer-Monitoring Wells															
FY	Qtr	A11A31	M10S	M11S	M12S	M13S	M14S	M15S	M16S	M17S	M1S	M3S	M4D	M6S	M7S	OW-2	USGS-127
1997	1																
	2																
	3											1.4		1.0			
	4																
1998	1																
	2																
	3																
	4																
1999	1																
	2																
	3																
	4																
2000	1																
	2																
	3									35							
	4																
2001	1																
	2																
	3																
	4																
2002	1																
	2														1.2		
	3																
	4																
2003	1																
	2																
	3																
	4																

Key	
	Analysis was performed, but technetium-99 was not detected.
	Technetium-99 was detected (pCi/L).
	If more than one positive detection occurred in a single quarter, then only the highest concentration is listed. MCL = 900 pCi/L FY = fiscal year MCL = maximum contaminant level RWMC = Radioactive Waste Management Complex USGS = United States Geological Survey

Figure 3-46. Occurrences of technetium-99 in aquifer samples collected in the vicinity of the Radioactive Waste Management Complex since Fiscal Year 1997.